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| 09/231,791 | 01/15/1999 | GIUSEPPE GUARINO | Q-52856 | 2603 |

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EXAMINER

VARCOE JR, FREDERICK T

| ART UNIT | PAPER NUMBER |
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1764

DATE MAILED: 03/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/231,791

Applicant(s)
Guarino et al.

Examiner
Varcoe

Art Unit
1764



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Oct 9, 2001
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirements.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 line 7 and claim 6 line 9 recite "the same." It is not clear what this refers to.

Claim 6 line 10 recites "said catalytic head." Is this a typographical error?

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 4-6, 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Poussin U.S. Patent No. 5,202,097.

With regard to claim 1, Poussin discloses construction of an assembly having an unperforated cylindrical wall (Figure 1 (10)) coaxial to the gas outlet wall (Figure 1 (9)) in the

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catalytic bed (31), the unperforated cylindrical wall (10) extending from an upper end of the gas outlet wall along a perforated portion of the outlet wall of a prefixed length in the catalytic bed (column 7 lines 19-21: the unperforated cylindrical wall is immersed in the catalyst bed).

Poussin discloses a free-space between the gas outlet wall (9) and the unperforated wall (10).

Poussin discloses providing means for closing an upper end of the free-space between the unperforated wall (10) and the gas outlet wall (9), in proximity of the upper end of the gas outlet wall, thereby preventing a bypass of the catalytic bed or a recycling to the catalytic bed of the gas entering and leaving the reactor.

With regard to claim 4, Poussin discloses the unperforated wall supported by the gas outlet wall (Figure 1).

With regard to claim 5, Poussin discloses a gas outlet wall having a diameter smaller than the diameter of the gas inlet wall and of the unperforated wall (Figure 1). Poussin further discloses the unperforated wall supported by a gas-tight horizontal baffle (Figure 1) which protrudes above the upper end of the gas outlet wall and rests on the gas outlet wall.

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With regard to claim 6, Poussin discloses a synthesis reactor comprising an external shell (Figure 1 (33)) a catalytic bed (Figure 1 (31)) provided with a perforated inlet wall (Figure 1 (7)) and a perforated outlet wall (Figure 1 (9)) in the shell.

Poussin discloses apparatus having an unperforated cylindrical wall (Figure 1 (10)) coaxial to the gas outlet wall (9) in the catalytic bed (31), the unperforated cylindrical wall (10) extending from an upper end of the gas outlet wall along a perforated portion of the outlet wall of a prefixed length in the catalytic bed (column 7 lines 19-21: the unperforated cylindrical wall is immersed in the catalyst bed).

Poussin discloses defining a free-space between the gas outlet wall (9) and the unperforated wall (10).

Poussin discloses providing means for closing the free-space between the unperforated wall (10) and the gas outlet wall (9), in proximity of the upper end of the gas outlet wall, preventing a bypass of the catalytic bed or a recycling to the catalytic bed of the gas entering and leaving the reactor.

With regard to claim 9, Poussin discloses the unperforated wall supported by the gas outlet wall. Poussin Figure 1.

With regard to claim 10, Poussin discloses a gas outlet wall having a diameter smaller than the diameter of the gas inlet wall and of the unperforated wall. Poussin Figure 1.

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Poussin further discloses the unperforated wall supported by a gas-tight horizontal baffle (Figure 1) which protrudes above the upper end of the gas outlet wall and rests on the gas outlet wall.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 2, 3, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Poussin U.S. Patent No. 5,202,097 as applied to claims 1, 4-6, 9 and 10 above.

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With regard to claims 2 and 7, Poussin discloses essentially the same invention as the instant claim but fails expressly to disclose that the unperforated wall extends for a portion comprising between 5% and 50% of the length of the gas outlet wall.

At the time of the invention it would have been obvious to one skilled in the art to extend the unperforated wall for a distance comprising between 5% and 50% of the length of the gas outlet wall. The motivation would have arisen as a design choice.

The length of the unperforated wall can also be considered a result-effective variable. The wall could be extended while monitoring the extent of undesired bypassing of the catalyst by the process stream. When the bypassing has dropped to an acceptable level, the wall is long enough.

With regard to claims 3 and 8, Poussin discloses essentially the same invention as the instant claim but fails expressly to disclose that the free space has a thickness of between 0.5 and 10 cm.

At the time of the invention it would have been obvious to one skilled in the art to construct the free space with a thickness of between 0.5 and 10 cm. The motivation would have arisen as a design choice.

The thickness can also be considered a result-effective variable. The thickness could be extended while monitoring the performance of the system. When the performance reaches an acceptable level, the thickness can be considered adequate.

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Response to Arguments

8. Applicant's arguments filed October 10, 2001, have been fully considered but are not persuasive.

Applicant argues that Poussin discloses a metal cap that surrounds the unperforated upper part of the cylindrical stack as shown in Figures 1 and 4-7, while Applicant's invention claims a cap that surrounds a perforated upper part of the cylindrical stack. Examiner replies that it is not clear from Poussin's figures that the upper portion is not perforated. For example, Figure 1 shows perforations just above the numeral 9 and also in a lower part of the apparatus. The markings on the drawing that indicate perforations are not intended to represent the only locations where perforations exist in the actual apparatus. The figures are schematic only and not pictorial. The tube is described as "generally a perforated tube" (column 7 lines 16 and 17). The schematic nature of the drawings is also seen with respect to the catalytic lining (31) (Abstract). The catalyst is illustrated in Figure 1 as occupying only in a portion of the chamber, but it is understood to fill the chamber.

Applicant further argues that Poussin's cap stops at the layer of flexible material that covers the catalytic bed, and thus does not extend for a predetermined length in the catalyst bed. At column 7 lines 19-21, Poussin describes the cap as being "immersed in the catalyst bed." While this may seem to contradict other parts of his specification, nevertheless it constitutes a disclosure of a cap that penetrates down into the catalyst bed.

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Applicant argues that Figures 4, 5, 7 and 11 show the absence of a discernable space between Poussin's cap and his vertical stack. Examiner replies that this does not alter the fact that Figure 1 shows such a space. Once again, differences between different parts of the specification do not alter the fact that a gap has been disclosed in Figure 1.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick Varcoe, whose telephone number is (703) 306-5477. The examiner can normally be reached Monday through Friday from 9:00 am to 5:00 pm.

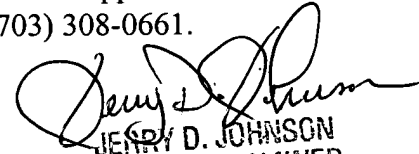
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marian Knode, can be reached on (703) 308-4311.

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The FAX telephone number for this Group Art Unit is (703) 305-3599 (for Official papers after Final), (703) 305-5408 (for other Official papers) and (703) 305-6357 (for Unofficial papers).

When filing a FAX in Group 1700, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communications with the PTO that are not for entry into the file of the application. This will expedite processing your papers.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.


JERRY D. JOHNSON
PRIMARY EXAMINER
GROUP 1100

RV
March 15, 2002